



MANAGEMENT SYSTEM MANUAL

7.8.6 Hot Work Procedures

Originator:	Approved By:
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1. Purpose

The purpose of this procedure is to establish the guidelines for inspection and testing required prior to the conduct of hot work.

2. Responsibility

Responsibility to conduct hot work in the vessel rests with the Master. When a Master is not on board it is the responsibility of the senior officer to insure that this policy is complied with.

3. General

There is substantial confusion about when a gas-free chemist must be hired and what procedures must be used when one is not available. The regulations in Title 46 CFR do provide very specific requirements and as a minimum must be adhered to.

To better understand when the regulations require a safety inspection to be completed, two criteria must be established. First it is necessary to define what is considered hot work and the other is to determine where the hot work is being conducted. To clear the meaning of those regulations a few regulatory terms need to be clarified as follows:

Grade D combustible liquids – Any combustible liquid having a flashpoint below 150° F and above 80° F. The diesel or gas oil used on Woods Hole Oceanographic Institution vessels falls into this criteria.

Grade E combustible liquids – Any combustible liquid have a flashpoint of 150° F or higher. The lube oils that we use fall into this category.

Hot work – Alterations, repairs, or other operations involving riveting, burning, welding, or like fire-producing actions.

Once it is determined that hot work is going to take place, the regulations define the following areas to require a “hot work permit” to be obtained. Those areas include the following as specified in 46 CFR 189.50 (b):

- 1) Within or on the boundaries of tanks which have been used to carry combustible liquids.
- 2) Within spaces adjacent to tanks which have been used to carry Grade D combustible liquids, except where the distance between such tanks and the work to be performed is not less than twenty-five feet.



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- 3) Within or on the boundary of fuel tanks.
- 4) Within or on the boundaries of tanks carrying Grade B or Grade C flammable liquids or within spaces adjacent to such tanks (which we do not have).
- 5) To pipelines, heat coils, pumps, fittings, or other appurtenances connected to such fuel tanks.

Given these definitions, the main areas we need to be concerned with are fuel tanks and spaces adjacent to fuel tanks. As an example, hot work within a potable water tank would not require a permit because a potable water tank is never adjacent to a fuel tank; however, hot work in the engine room that has fuel tanks underneath it, does require a hot work permit.

There are times when a Marine Chemist may not be available to perform the required inspection to issue a gas free certificate. 46 CFR 189.50 provides the following guidance:

- 1) In ports or place in the United States or its territories and possessions the inspection shall be made by a marine chemist certificated by the Nation Fire Protection Association...
- 2) When not in such a port or place, and a marine chemist or such person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the inspection shall be made by the senior officer in the crew present and a proper entry shall be made in the vessel's logbook.

4. Action

In all U.S ports, services of a certified marine chemist shall be obtained prior to the starting of hot work to conduct a safety inspection for the conducting of hot work.

When not in a U.S. port, the master or senior officer on the vessel shall conduct, or have conducted, an inspection to determine that the area where hot work is to be conducted is safe for the hot work to be completed. The master or senior officer on the vessel then shall determine that the area is safe for the conducting of hot work in the area specified.

It will then be the responsibility of the senior officer present to secure copies of certificates issued by the certified marine chemist. It shall be the responsibility of the senior officer in the crew present, insofar as the persons under his control are concerned, to maintain a safe condition on the vessel by full observance of all qualifications and requirement listed by the marine chemist in the certificate.



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5. Reporting

Hot work permits shall be maintained by the master of the vessel. When the master is not on the vessel, such permits shall be obtained by the senior officer on the vessel and saved on turned over to the master when the master returns. These permits shall be maintained for a period of three years to be available to provide objective audit evidence compliance to external auditors.

When outside of a U.S. port, the conducting of a safety inspection for the conducting of hot work shall be recorded in the ship's logbook.

It is not necessary to record the conducting of a safety inspection for the conducting of hot work in the SafeNet system unless entered as a part of some additional report entered into the system.